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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/667,933

09/22/2003

Shanmuganthan Suganthan

38105.830024.US0

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7590

07/05/2006

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EXAMINER

WIMER, MICHAEL C

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/667,933

Applicant(s)

SUGANTHAN ET AL.

Examiner

Michael C. Wimer

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-16 ad 19-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-16 ad 19-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/2/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3,6,8,10-16,18 and 20-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Carlson et al. (6414641).

Regarding Claims 1-3,6,8,10-16,18 and 20-25, Carlson et al. show a PIFA comprising a radiating patch 1 defined as a blank with periphery, a first feed connector 12, cut from the blank and extending away from the blank in a first direction and forming a cutout region in the blank between the short 13' and the blank (Fig. 5), and a second, ground connector 11 extending away from the blank in the first direction, dielectric carrier 2, etc., and locating pins (col. 3, last paragraph), with a bent/deformed locating pin/tab (unnumbered) and locating block (the housing that connects to the feed end of the rod antenna). The Fig. 5 embodiment is a direct substitute for that feeding portion in Fig. 1. It would have been obvious to the skilled artisan that the cutout region located between the short 13' and the blank 1 (Fig. 5) is deemed being completely internal to the conductive blank, particularly since there is a continuous connection from the short 13' and plate 1. A feed 5 is connected to the first connector 12 such that power is provided at a point internal to the conductive blank because the

connectors 4 and 5 are internal to the perimeter of the conductive blank as claimed.

3. Claims 7,9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson et al. (6414641) in view of Klinger et al. (5532707).

Klinger et al. are cited as resolving the level of ordinary skill in the antenna art and as evidence of obviousness where the antenna is completely formed within the perimeter of the plate in which the antenna is formed. The feeder, with ground connector 7,7 extends a first direction from the plate 5, and an antenna portion 13, defining the cutout, contributes to the radiation pattern (see col. 4, third paragraph of Klinger et al.). It would have been obvious to form the antenna of Carlson et al. completely within the perimeter of the plate and the aperture thus formed defining an antenna element effecting the radiation pattern.

Claim Objections

4. Claims 10 and 25 are objected to because of the following informalities:

Claim 10 should end in a period.

Claim 25 ends with two periods.

Appropriate correction is required.

Response to Arguments

5. Applicant's arguments filed 5/30/2006 have been fully considered but they are not persuasive. Specifically, the added language that a feed is connected to a first connector or means internal to the radiating patch, such that power is provided at a point internal to the conductive blank. Notice that both the feeder points 4 and 5 and the

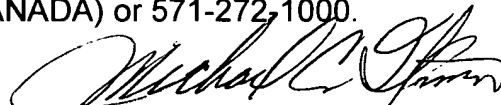
Art Unit: 2828

feed conductors 12 and 11 connected thereto, are well within the perimeter of the conductive blank radiator. Thus, the added claim language does not overcome the rejections set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun O. Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael C. Wimer
Primary Examiner
Art Unit 2828

MCW
6/1/2006